

The invention claimed is:

1. A top hitch plate adapted for use within a fifth wheel hitch, comprising:
 - a top surface adapted to support a load thereon;
 - 5 a bottom surface opposite the top surface;
 - a forward end having a convex shape;
 - a rearward end bifurcated into a first portion and a second portion, wherein the first portion and the second portion define a throat therebetween for receiving a kingpin therein;
 - 10 a first laterally extending structural support rib extending downwardly from the bottom surface and located between the forward end and rearward end of the top hitch;
 - a second laterally extending structural support rib extending downwardly from the bottom surface and located between the first support rib and the rearward end of the top hitch; and
 - 15 a pair of ears extending longitudinally between the first and second support ribs, wherein each ear includes an aperture extending therethrough adapted to receive a pivot pin therein to pivotably support the top hitch plate on a supporting structure, and wherein each ear is substantially offset from at least a selected one of the first support rib and the second support rib.
- 20 2. The top hitch plate of claim 1, wherein each ear is substantially offset from both the first rib and the second rib.
3. The top hitch plate of claim 2, further including:
 - 25 a pair of outer walls each including an aperture extending therethrough adapted to receive the pivot pins therein, wherein the outer walls cooperate with the ears to pivotably support the top hitch plate on the supporting structure.
4. A top hitch plate adapted for use within a fifth wheel hitch, comprising:
 - 30 a top surface adapted to support a load thereon;
 - a bottom surface opposite the top surface;

a forward end having a convex shape;

a rearward end bifurcated into a first portion and a second portion, wherein the first portion and the second portion define a throat therebetween for receiving a kingpin therein;

5 a first laterally extending structural support rib extending downwardly from the bottom surface and located between the forward end and rearward end of the top hitch;

a second laterally extending structural support rib extending downwardly from the bottom surface and located between the first support rib and the rearward end of the top hitch; and

10 a planar shelf member substantially offset from the bottom surface, wherein the shelf member is connected directly to only a select one of the first support rib and the second support rib.

5. The top hitch plate of claim 4, wherein the planar shelf member is connected 15 directly to the first support rib.

6. A fifth wheel hitch assembly operable between a fully locked condition and a fully released condition, comprising:

20 a top hitch plate including a top surface adapted to support a load thereon, a bottom surface opposite the top surface, a forward end having a convex shape, and a rearward end bifurcated into a first portion and a second portion, wherein the first portion and the second portion define a throat therebetween for receiving a kingpin therein;

25 a lock jaw pivotably coupled to the hitch plate at the throat of the hitch plate and pivotable between a fully locked position and a fully released position;

30 a hook jaw pin rotatably coupled to the hitch plate and pivotably coupling the hook jaw to the hitch plate, the jaw pin having a cammed shaft portion and a head portion, wherein the cammed shaft portion abuts the hook jaw such that rotation of the hook jaw pin adjusts the location of the hook jaw with respect to the hitch plate, and wherein the head portion includes an outer peripheral edge having a plurality of notches spaced radially thereabout; and

an adjustment pin movable between an engaged position, wherein the adjustment pin is received within one of the notches of the hook jaw pin, thereby preventing rotation of the hook jaw pin, and an unengaged position, wherein the adjustment pin is not located within one of the notches of the jaw pin, thereby allowing rotation of the lock jaw pin.

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7. The fifth wheel hitch of claim 6, wherein the hook jaw pin includes a top surface that is substantially coplanar with the top surface of the hitch plate.

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8. The fifth wheel hitch of claim 7, wherein the top surface of the hook jaw pin includes a tool receiving aperture.

9. The fifth wheel hitch of claim 8, wherein the top aperture of the hook jaw pin is slot-shaped.

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10. The fifth wheel hitch of claim 9, wherein the adjustment pin is biased towards the engaged mechanism by a spring mechanism.

11. A fifth wheel hitch assembly, comprising:

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a top hitch plate including a forward end having a convex shape, and a rearward end bifurcated into a first portion and a second portion, wherein the first portion and the second portion define a throat therebetween for receiving a kingpin therein, a top surface adapted to support a load thereon, a bottom surface opposite the top surface, at least one longitudinally extending outer wall having an aperture extending therethrough, and at least one longitudinally extending inner ear and having an aperture extending therethrough;

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a pivot pin having a central axis, a shank portion received within the aperture of the outer wall and the aperture of the inner ear, and a head portion having an outer surface, an inner surface abutting the outer wall, and at least one flat side edge;

a locking washer having an outer surface and an inner surface that abuts the outer surface of the head portion of the pivot pin, thereby preventing the pivot pin from being removed from within the apertures of the outer wall and the inner ear; and

5 a locking bolt having a central axis that is offset from, and parallel to, the central axis of the pivot pin, wherein the locking bolt abuts the outer surface of the locking washer.

10 12. The fifth wheel hitch assembly of claim 11, wherein the locking washer includes a first portion having a first radius and that includes the outer surface of the locking washer, the locking washer includes a second portion having a second radius that is less than the first radius and that includes the inner surface of the locking washer, and wherein the second portion of the locking washer includes a flat side edge that abuts the flat side edge of the head portion of the pivot pin, thereby preventing rotation of the pivot pin with the apertures of the outer wall and the inner ear.

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13. A wheel hitch assembly operable between a fully locked position and a released condition, comprising:

a hitch plate adapted to support a load thereon and including a cam follower and a throat for receiving a king pin therein;

20 a lock jaw pivotably coupled to the hitch plate at the throat of the hitch plate and pivotable between a fully locked position and a fully released position;

a hook jaw pivotably coupled to the hitch plate defining a second pivot point, the hook jaw pivotable between an engaged position, wherein the hook jaw engages the lock jaw and retains the lock jaw in the fully locked position, and an unengaged position, 25 wherein the lock jaw is able to pivot to the fully released position;

a release handle movably coupled to the hitch plate;

30 a release cam member pivotably coupled to the release handle of a first end, and pivotably coupled to the hook jaw at a second end of the release cam member, the release cam member including a cam surface engaging the cam follower, the cam surface having a lock portion preventing translation of the release cam member when the cam follower engages the lock portion, the cam surface further including a guide portion

shaped such that movement of the release handle shifts the release cam member and disengages the cam follower from the lock portion and guides movement of the release cam member to shift the hook jaw to the unengaged position.

5 14. The wheel hitch assembly of claim 13, including:

 a spring biasing the cam surface into contact with the cam follower.

10 15. The wheel hitch assembly of claim 14, wherein:

 the spring comprises a first spring and including a second spring that, together with the first spring, rotationally biases the shift cam member about the cam follower.

15 16. The wheel hitch assembly of claim 14, wherein:

 the cam surface comprises an opening through the release cam member, the opening having an elongated portion and a notch forming the lock portion, and wherein the cam follower comprises a pin.

20 17. The wheel hitch assembly of claim 16, wherein:

 the release cam member includes a notch that engages the hitch plate when the lock jaw and the hook jaw are in the fully locked positions.

18. The wheel hitch assembly of claim 17, wherein:

 the release handle includes a notch that engages the hitch plate to retain the release handle in a released position, and wherein the first spring biases the notch of the release handle out of engagement with the hitch plate.